



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,070	07/11/2001	Tae-hun Shim	5649-885	9380

20792 7590 02/25/2003

MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

EXAMINER

STASHICK, ANTHONY D

ART UNIT	PAPER NUMBER
----------	--------------

3728

DATE MAILED: 02/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,070

Applicant(s)

SHIM ET AL.

Examiner

Anthony D Stashick

Art Unit

3728

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 contains the term "wavers" in line 2 of the claim. It is unclear what is meant to be encompassed by this limitation in the claim. To correct this, applicant should correct the spelling to "wafers".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Brooks 6,155,027. Brooks '027 discloses all the limitations as claimed including the following: providing a carrying device 11 that holds semiconductor wafers W; inserting the carrying device into a packing bag (see Figure 6 or col. 6, line 9-col. 7, line 29); molding the packing bag by contacting an outer surface of the packing

Art Unit: 3728

bag opposite the cassette (vacuum sealing by having the vacuum contact the outer surface of the bag which is opposite the surface that the cassette is contacting) using at least a portion of an external form of the carrying device as a guide (this is how the vacuum molding works as the bag is molded to the shape of the device located in the bag when the air is removed); packing the wafer holder inside the first bag into a second bag (see col. 7, lines 23-29); sealing the first bag so that the device remains in communication with the environment external the first bag (through port 50); folding a portion of the first bag to seal it (see other sealed end of bag in Figure 6, seal on second side would be done the same. folded along dashed lines).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, 11, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks 6,155,027 in view of Gillio-tos et al. 4,611,456. Brooks '027 discloses all the limitations of the claims including the following: providing a carrying device 11 that holds semiconductor wafers W; inserting the carrying device into a packing bag (see Figure 6 or col. 6, line 9-col. 7, line 29); molding the packing bag by contacting an outer surface of the packing bag opposite the cassette (vacuum sealing by having the vacuum contact the outer surface of the bag which is opposite the surface that the cassette is contacting) using at least a portion of an external form of the carrying device as a guide (this is how the vacuum molding works as the bag is molded to the shape of the device located in the bag when the air is removed); packing the wafer holder inside the first bag into a second bag (see col. 7, lines 23-29).

Art Unit: 3728

Brooks '027 does not teach the trimming or cutting of the unnecessary border. Gillio-tos et al. '456 teaches that it is desirable to trim the excess material in packaging a product in order to recover the flash or excess material that extends past the product. Therefore, it would have been obvious, to one of ordinary skill in the art at the time the invention was made, to trim the excess material of the bag of Brooks, after sealing, to recover the excess material for possible reuse later. With respect to claims 2 and 20, it appears that it would have been obvious to make the container for any sized wafer, including 300mm wafers which are well known in the art.

7. Claims 3-5, 7-10, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks 6,155,027 and Gillio-tos et al. 4,611,456 as noted above in view of Schirmer 4,928,474. Brooks '027 and Gillio-tos et al '456 as noted above including placing the first bag with the cassette in into a second bag (see col. 7, lines 23-29 of Brooks '027). Brooks '027 and Gillio-tos et al. '456 do not disclose the different material of the bags and sealing the first bag being loose around the cassette. Schirmer '474 teaches that a product covered with multiple coverings (multiple bags) can have the inner covering made of polypropylene and a metal foil (such as aluminum) as an outer covering (see col. 3, Summary Of The Invention). The inner layer of polypropylene allows for dissipation of moisture from the product through the layer, while the outer layer of aluminum prevents oxygen from entering the container. Therefore, it would have been obvious to make the inner bag of Brooks '027 in view of Gillio-tos et al. '456 out of polypropylene and the outer bag out of aluminum, as taught by Schirmer '474 to allow for any trapped moisture to escape from within the inner bag and to prevent oxygen from entering the bag and contaminating the product. With respect to claim 8, it appears that it would have been obvious to make the container for any sized wafer, including 300mm wafers which are well known in the art.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krause 5,709,065 in view of Cormack 3,189,174 and Gillio-tos et al. 4,611,456. Krause '065 discloses all the limitations

Art Unit: 3728

substantially as claimed including the following: putting a cassette 3 in which wafers (substrates) are inserted in to a packing bag 20; sealing the packing bag mechanically (heat sealed). Krause '065 does not teach the packing bag being tightly fitted to the external form of the cassette and the border being trimmed. Cormack '174 teaches that in packaging of a sterile product, the package can be tightly fitted to the product when the product is sealed in the package (see Figure 2). Gillio-tos et al. '456 teaches that it is desirable to trim the excess material in packaging a product in order to recover the flash or excess material that extends past the product. Therefore, it would have been obvious, to one of ordinary skill in the art at the time the invention was made, tightly fit the bag of Krause '065 to the form of the cassette to limit the amount of material used to seal the container in the bag and to trim the excess material of the bag of Krause '065, after sealing, to recover the excess material for possible reuse later.

9. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks 6,155,027 as applied to claim 12 above in view of Cho et al. 6,170,235. Brooks '027 as applied to claim 12 above discloses all the limitations of the claims except for the packaging being done in a packing room on the same level as a wafer clean room and the wafers being cleaned before packing. Cho et al. '235 teaches that wafers can be cleaned and then packed before there is a specific amount of sulphuric oxide buildup on the wafer. Cho et al. '235 also teaches that this packaging can be done in a clean room that is at least a Class 10 clean room, the same level used for wafers. Therefore, it would have been obvious to clean and package the wafers in a clean room as taught by Cho et al. '235, to prevent any corrosion to the wafers before and during packaging.

Response to Arguments

10. Applicant's arguments filed November 27, 2002 have been fully considered but they are not persuasive. Applicant argues that the references applied do not mold the packing bag by "contacting an

Art Unit: 3728

outer surface of the packing bag, opposite the carrying device” as claimed. This argument is not clearly understood. Since the vacuum packing includes a valve that is attached to the outer side of the bag, the vacuum contacts that outer side of the bag that is opposite the cassette to evacuate the air and thereby seal the bag. With respect to Krause ‘065, since the heat sealer of Krause ‘065 contacts the outer surface of the bag to bring the closure together and seal it, it meets the limitation of contacting the outer surface of the bag opposite the surface in contact with the cassette.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Telephone inquiries regarding the status of applications or other general questions, by persons entitled to the information, “should be directed to the group clerical personnel and not to the examiners. In as much as the official records and applications are located in the clerical section of the examining groups, the clerical personnel can readily provide status information without contacting the examiners”, M.P.E.P. 203.08. The Group clerical receptionist number is (703) 308-1148.

If in receiving this Office Action it is apparent to applicant that certain documents are missing, e.g., copies of references cited, form PTO-1449, form PTO-892, etc., requests for copies of such papers or other general questions should be directed to Tech Center 3700 Customer Service at (703) 306-5648, email CustomerService3700@uspto.gov.

Art Unit: 3728

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony D Stashick whose telephone number is 703-308-3876. The examiner can normally be reached on Tuesday through Friday from 8:30 am until 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mickey Yu can be reached on 703-308-2672. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

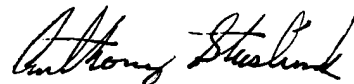
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

Other helpful telephone numbers are listed for applicant's benefit.

Allowed Files & Publication	(703) 305-8322
Assignment Branch	(703) 308-9287
Certificates of Correction	(703) 305-8309
Drawing Corrections/Draftsman	(703) 305-8404/8335
Fee Increase Questions	(703) 305-5125
Intellectual Property Questions	(703) 305-8217
Petitions/Special Programs	(703) 305-9282
Terminal Disclaimers	(703) 305-8408
Informal Fax for 3728	(703) 308-7769

If the information desired is not provided above, or has been changed, please do not call the examiner (this is the latest information provided to him) but the general information help line below.

Information Help line	1-800-786-9199
Internet PTO-Home Page	http://www.uspto.gov/



Anthony D Stashick
Primary Examiner
Art Unit 3728

ADS
February 21, 2003